



## Asymmetry dynamics in real exchange rates: New results on East Asian currencies

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### ABSTRACT

This paper provides new evidence on the purchasing power parity (PPP) hypothesis in six East Asian countries. Based on nonlinear unit root tests, we discovered that the results are broadly consistent with the fact that real exchange rates (RERs) follow a nonlinear mean reversion process. We presented new evidence that the adjustment towards the PPP parity is asymmetric (LSTAR process) above and below the equilibrium value in all but one case – the Malaysian ringgit (MYR). The empirical results suggest that it is important that the conventional tests of PPP be amended to take account of asymmetries in the adjustment process in RERs.

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## 1. Introduction

The purchasing power parity (PPP) hypothesis postulates that national price levels expressed in a common currency should be equal. PPP may be tested by carrying out nonstationarity tests on the real exchange rate (RER) since the latter can be interpreted as a measure of deviation from PPP. While the RER may be subjected to short-run variation, a necessary condition for PPP to hold in the long-run is that the RER be covariance stationary; it thus has a tendency to revert to a stable equilibrium level over time. In fact, nonstationarity of the RER implies invalidity of long-run PPP as the divergence of purchasing power across the countries considered (expressed in the same currency) would become theoretically infinite.

As to whether long-run PPP holds or not has important economic implications. First, the degree of persistence in the RER can be used to infer the principal impulses driving exchange rate movements. Precisely, if the RER is highly persistent, then the shocks are likely to be supply-side, whereas if there is little persistence, then the shocks may principally be aggregate demand-based (Rogoff, 1996). Second, since the RER is commonly regarded as one measure of international competitiveness, it reflects an important policy-relevant variable, particularly in emerging market economies where exports have been the principal source of economic growth. In fact, because the export base in emerging market economies is hardly diversified, these countries are particularly vulnerable to increased competition. Finally, estimates of PPP exchange rates are often used for practical purposes, such as determining the degree of misalignment of the nominal exchange rate and the appropriate policy response, the setting of

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